

CLAIMS

What I claim is:

1. A mist elimination device for removal of moisture from a gas stream, which comprises:
  - an enclosure having an upper inlet for a flow of the gas stream, a lower outlet for collected liquid and a second outlet for a product gas stream,
  - a hood located generally axially in said chamber having walls sloping downwardly from an upper crown to a lower extremity defining an exterior and a space beneath the hood,
  - at least one moisture collection channel provided on the exterior surface of said walls positioned to collect liquid on said walls and guide the collected liquid to at least one flow channel positioned to direct collected liquid to below the hood,
  - at least one moisture collection channel provided on an interior surface of the walls positioned to collect liquid entrained in the gas stream and passing from the exterior of the hood into the space beneath the hood, and
  - an outlet duct communicating with the space beneath the hood and joined to the second outlet for guiding gas entering the space beneath the hood to the second outlet.
2. The mist elimination device of claim 1, wherein said chamber and said hood have a rectangular or square cross-sectional shape.
3. The mist elimination device of claim 1, wherein said chamber and said hood have a round or oval cross-sectional shape.
4. The mist elimination device of claim 1, further comprising an additional moisture collection channel positioned on an interior surface of the outlet duct positioned to collect liquid running along the interior surface of the outlet duct.
5. A mist elimination precipitator assembly for the treatment of a gas stream containing particulates, comprising:
  - an upper inlet and a lower outlet ,

electrostatic precipitator element extending from the upper inlet to the lower outlet for removing contaminator from a gas stream passing from the upper inlet to the lower outlet,

a gas stream which has been saturated with moisture passing through the electrostatic precipitator elements,

means for flushing and/or irrigating electrostatic precipitator elements internal method elements,

a mist elimination device in unobstructed fluid flow communication with the lower outlet for removing entrained droplets from the gas stream, said mist elimination device being as claimed in claim 1.